

### **REMARKS**

In response to the Office Action dated May 27, 2008, the Applicants provide the following remarks to address the issues cited by the Examiner.

#### **Status of the Claims**

By this amendment, claim 21 has been added and no claims have been amended or cancelled; therefore, claims 9-21 are currently pending in the present application. It is respectfully submitted that no new matter has been introduced by this amendment, as support therefor is found throughout the specification and drawings. In view of the above amendment and the following remarks, it is respectfully submitted that claims 9-21 are allowable.

#### **Allowable Subject Matter**

The Applicants cordially thank the Examiner for the indication of allowable subject matter in claim 14.

#### **Claim Rejections under 35 U.S.C. 102(e) & 103(a)**

Claims 9, 10, 12, 13, 15, 16 and 20 stand rejected under 35 U.S.C. 102(e) as being anticipated by Diaz et al. (U.S. 6,938,488) (Hereinafter referred to as Diaz). The Examiner's grounds for rejection are hereinafter traversed, and reconsideration is respectfully requested.

The present invention is an ultrasonic apparatus for inspecting a work piece, for example, a spot weld joint between adjacent sheet metal plates. To begin the inspection, the coupling to the work piece must be optimized. This task is performed by moving the probe in at least two solid angles, which thereby optimizes coupling and echo sequences. Hence, the apparatus of the claimed invention is designed to allow for the varying of the angle under which the coupling to the entrance surface is performed in at least two solid angles.

Diaz teaches an acoustic inspection apparatus for examining filled containers. However, the Applicants respectfully disagree with the Examiner's assertion that Diaz teaches an apparatus wherein the couplant allows for varying the angle under which the coupling to the entrance surface is performed in at least two solid angles. To the contrary, Diaz teaches away from any

angular movement of the apparatus. Moreover, the Diaz apparatus (gun 10) does not allow, during proper use and inspection, for any angular movement of the gun on the surface of the container under inspection. In fact, the gun design restricts the incident angle to 90° relative to the surface. This 90° restriction is evidenced by the integration of a set of pins 82 onto the front face of the gun 10, which serve as a means of stabilizing and securing the gun to its 90° position relative to the entrance surface of the container under inspection. Further, the Applicants respectfully submit that varying the entrance angle of the ultrasonic beam in Diaz would lead to erroneous readings of the filling level of the containers under inspection because the liquid level in the containers is always oriented horizontally; hence, an inclined (i.e. not 90°) orientation of the ultrasonic beam would lead to an undefined horizontal position of the reading of the gun. Therefore, in Diaz, proper orientation and stabilization of the gun in the above-mentioned 90° position is crucial to the accuracy of the reading.

For at least the reasons advanced above, the Applicants respectfully submit that independent claims 9 and 20 are not anticipated by Diaz. Withdrawal of this rejection is respectfully requested. Claims 10, 12, 13, 15 and 16 depend either directly or indirectly from claim 9, and therefore, for at least the same reasons in support of the patentability of claim 9, the Applicants respectfully submit that said claims are not anticipated by Diaz. Withdrawal of this rejection is respectfully requested.

Claims 11 and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Diaz in view of Horn (US 4,275,596). Claims 11 and 19 depend either directly or indirectly from claim 9 and for at least the same reasons in support of the patentability of claim 9, the Applicants respectfully submit that said claims define patentably over the cited art of record. Withdrawal of this rejection is respectfully requested.

Claim 17 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Diaz in view of Battenber et al. (US 6,247,353). Claim 17 depends directly from claim 9 and for at least the same reasons in support of the patentability of claim 9, the Applicants respectfully submit that said claims defines patentably over the cited art of record. Withdrawal of this rejection is respectfully requested.

Claim 18 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Diaz in view of Cram et al. (US 3,115,770). Claim 18 depends directly from claim 9 and for at least the same reasons in support of the patentability of claim 9, the Applicants respectfully submit that said

claims defines patentably over the cited art of record. Withdrawal of this rejection is respectfully requested.

Regarding new claim 21, the Applicants respectfully submit that none of the prior art references, taken alone or in combination, teach or suggest that the probe is movable in at least two solid angles relative to the work piece and that the signal value is derived from the amplitude of one of the following: the entrance echo, one back wall echo, a plurality of back wall echoes. Accordingly, allowance of claim 21 is respectfully requested.

### **Conclusion**

It is respectfully submitted that claims 9-21 are allowable for at least the abovementioned reasons. All issues raised by the Examiner having been addressed, an early action to that effect is earnestly solicited.

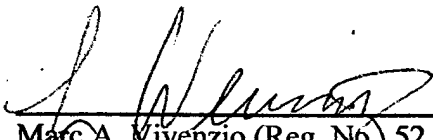
If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

It is believed that no fees are due in addition to those fees submitted herewith. In the event of a fee deficiency, authorization is hereby given to charge any required fees to Deposit Account No. 50-3569.

Respectfully submitted,

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